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中国拟裸蝗属分类研究及二新种记述
(鳞翅目:斑腿蝗科)

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摘要: 记述了我国拟裸蝗属 10 种, 其中有 2 新种, 即香格里拉拟裸蝗 Conophymacris *xianggelilaensis* sp. nov. 及九龙拟裸蝗 *Conophymacris jiulongensis* sp. nov., 附有分种检索表和种类分布。模式标本保存于陕西师范大学动物研究所及河北大学博物馆。
关键词: 直翅目; 斑腿蝗科; 拟裸蝗属; 分类; 新种
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A taxonomic study of the genus *Conophymacris* Willemse (Orthoptera: Catantopidae) from China, with descriptions of two new species

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Abstract: The genus *Conophymacris* Willemse from China was reviewed, with ten species recorded, including two new species: *Conophymacris xianggelilaensis* Niu *et* Zheng, sp. nov. and *Conophymacris jiulongensis* Zheng *et* Shi, sp. nov. A key to the species of *Conophymacris* from China is provided. Type specimens are kept in the Institute of Zoology, Shaanxi Normal University and Museum of Hebei University.
Key words: Orthoptera; Catantopidae; *Conophymacris*; taxonomy; new species

拟裸蝗属 *Conophymacris* 为 Willemse 1933 年建立(Willemse, 1933), 属模式种 *Conophymacris chinensis*, 标本采自于云南昆明; 张光朔(1937)报道了 *C. szechwanensis*; 郑哲民(1977, 1980)报道了 *C. yunnanensis* 及 *C. viridis*; 毕道英和夏凯龄(1984)报道了 *C. conicerca*; 梁铬球(1993)报道了 *C. nigrofemora*; 王裕文(1993)报道了 *C. chuxiongensis*; 郑哲民,和毛本勇(1996)报道了 *C. cangshanensis*, 至此共计有 8 种, 均分布于我国云南和四川地区。在整理近年来采自云南和四川等地标本时, 又发现 2 个新种, 模式标本保存于陕西师范大学动物研究所及河北大学博物馆。

拟裸蝗属 *Conophymacris* Willemse, 1933

Conophymacris Willemse, 1933, *Naturh. Maandblad* 22(2): 16; Bei-Bienko and Mistshenko, 1951, Acridoidea of the USSR and Adjacent Countries: 180; Mistshenko, 1952, Fauna of the USSR, IV(2), nov. ser. 54 (Catantopinae): 71, 201 - 203; Xia, 1958, Synop. Classifi. Chinese Acridoidea: 45 - 46; Zheng, 1985, Acridoidea from YGSSN Regions: 152; Zheng, 1993, Acritaxonomy: 131; Li and Xia, 2006, Fauna Sinica, Insecta 43: 352.

模式种: *Conophymacris chinensis* Willemse, 1933

体中型, 通常具细刻点。头短, 颜面侧观略向后倾斜, 颜面隆起纵沟明显。复眼卵圆形, 较突出。触角丝状, 细长, 超过前胸背板后缘。前胸背板前缘平直, 后缘圆弧形, 中央微凹; 中隆线较高, 侧隆线明显, 直或在沟前区处略凹; 沟前区长度大于沟后区。前胸腹板突圆锥形, 顶端略尖; 后胸腹板侧叶明显分开。前翅较小, 鳞片状, 侧置, 在背部不相毗连, 翅顶圆形, 长度超过第 1 腹节背板后缘; 后翅极小, 不发达。后足股节匀称, 上侧中隆线平滑, 下膝侧片顶端圆形或圆角形突出; 后足胫节具外端刺。鼓膜器发达, 孔卵圆形。雄性腹部末节背板后缘无尾片。肛上板宽盾形, 端部圆角形突出。尾须较扁, 基部和端部较宽, 中部细或成锥形。下生殖板短锥形。阳具基背片桥状, 桥部平直

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或拱形，具锚状突，冠突一对，其下缘中部翘起。雌性肛上板长三角形；尾须短锥形；下生殖板后缘常具3个突起；上产卵瓣之上外缘不具细齿或具钝齿。

中国拟裸蝗属分种检索表

1(2) 雌性下生殖板后缘中央凹入；前胸腹板突前后扁平。分布于云南（楚雄）
······ 楚雄拟裸蝗 *C. chuxiongensis* Wang, 1993

2(1) 雌性下生殖板后缘中央三角形突出；前胸腹板突圆锥形

3(4) 雄性尾须锥状。分布于云南（保山）······ 锥尾拟裸蝗 *C. conicerca* Bi *et* Xia, 1984

4(3) 雄性尾须基部和端部扩宽

5(6) 后足胫节褐色。分布于云南（个旧、师宗、马关、文山）······ 云南拟裸蝗 *C. yunnanensis* Cheng, 1977

6(5) 后足胫节红色

7(8) 雄性尾须后下角内折。分布于云南（香格里拉）······ 香格里拉拟裸蝗 *C. xianggelilaensis* Niu *et* Zheng sp. nov.

8(7) 雄性尾须末端扁平，后下角不内折

9(12) 雄性尾须后下角锐角形

10(11) 后足股节内侧全黑色；雄性尾须后上角较尖，锐角形。分布于云南(丽江)、四川(盐源)
······ 黑股拟裸蝗 *C. nigrofemura* Liang,1993

11(10) 后足股节内侧大部为黑色，具明显淡色斑；雄性尾须后上角较钝，钝角形或圆形。分布于云南(大理苍山、宾川、剑川、洱源、大姚、永胜、丽江、香格里拉)······ 苍山拟裸蝗 *C. cangshanensis* Zheng *et* Mao, 1996

12(9) 雄性尾须后下角钝角形或圆形

13(16) 雄性尾须后缘弧形，后下角近圆弧形；雄性下生殖板顶钝

14(15) 雄性前胸背板侧隆线在沟前区略弯曲；后足股节内侧全黑色；后足胫节红色；雌性翅长为宽的1.6倍；雌性下生殖板后缘具三突起，中齿小。分布于云南(保山)、四川(昭觉) ······ 绿拟裸蝗 *C. viridis* Zheng,1980

15(14) 雄性前胸背板侧隆线在沟前区直；后足股节内侧大部为黑色，中部及端部具淡色斑；后足胫节端2/3红色，基1/3黑色，近基部具淡色环；雌性翅长为宽的1.25倍；雌性下生殖板后缘具三突起，中齿大。分布于四川(九龙)
······ 九龙拟裸蝗 *C. jiulongensis* Zheng *et* Shi, sp. nov.

16(13) 雄性尾须后缘近平直，后下角近钝角形；雄性下生殖板顶尖

17(18) 触角较细长，中段一节的长度为宽度的3~4倍；体型较大，体长：♂27~31 mm，♀35~40 mm。分布于四川(峨眉山)
······ 四川拟裸蝗 *C. szechwanensis* Chang, 1937

18(17) 触角较粗短，中段一节的长度为宽度的2~2.5倍；体型较小，体长：♂20~24 mm，♀25~29 mm。分布于云南(昆明、会泽、富民)、重庆 ······ 中华拟裸蝗 *C. chinensis* *Willemse*, 1933

Key to species of *Conophymacris* Willemse from China

1(2) Hind margin of subgenital plate of female concave in the middle; prosternal process relatively flatted in front and behind faces. Distribution in Yunnan (Chuxiong) ······ *C. chuxiongensis* Wang, 1993

2(1) Hind margin of subgenital plate of female with a triangular process in the middle; prosternal process conical.

3(4) Cerci of male conical. Distribution in Yunnan (Baoshan) ······ *C. conicerca* Bi *et* Xia, 1984

4(3) Cerci of male widened on basal and apical parts.

5(6) Hind tibia brown. Distribution in Yunnan (Gejiu, Shizong, Maguan and Wenshan) ······ *C. yunnanensis* Cheng, 1977

6(5) Hind tibia red.

7(8) Cerci of male folded on lower margin of apex. Distribution in Yunnan (Xianggelila) ······ *C. xianggelilaensis* Niu *et* Zheng, sp. nov.

8(7) Cerci of male flat on apex, postero-lower angle not folded.

9(12) Cerci of male postero-lower angle acutangular.

10(11) Inner side of hind femur black; postero-upper angle of male acutangular. Distribution in Yunnan (Lijiang), Sichuan (Yanyuan) ······ *C. nigrofemora* Liang, 1993

11(10) Most part of inner side of hind femur black, with distinctly light band; postero-upper angle of male obtuse-angular or nearly round. Distribution in Yunnan (Dali, Binchuan, Jianchuan, Eryuan, Dayao, Yongsheng, Lijiang and Xianggelila) ······ *C. cangshanensis* Zheng *et* Mao, 1996

12(9) Cerci of male postero-lower angle obtuse angular or nearly round.

13(16) Hind margin of cerci of male arc, postero-lower angle rounded; apex of subgenital plate of male obtused.

14(15) In male, lateral keels of pronotum slightly curved in prozona; inner side of hind femur black; hind tibia red; length of elytra of female 1.6 times its width; hind margin of subgenital plate of female with three teeth, middle one small. Distribution in Sichuan (Zhaoiue), Yunnan (Baoshan) ······ *C. viridis Zheng*, 1980

15(14) In male, lateral keels of pronotum straight; most part of inner side of hind femur black, middle and apical part light; apical two-thirds of hind tibia re, basal one third black, near the basal part with light ring; length of elytra of female 1.25 times its width; hind margin of subgenital plate of female with three teeth, middle one large. Distribution in Sichuan (Jiulong). ······ *C. jiulongensis* Zheng *et* Shi, sp. nov.

16(13) Hind margin of cerci of male straight, postero-lower angle obtuse angular; subgenital plate sharp.

17(18) Antennae long and slender, length of middle segment 3 – 4 times its width; size larger, length of body: ♂27 – 31 mm, ♀38 – 40 mm. Distribution in Sichuan (Emei Shan) ………… *C. szechwanensis* **Chang, 1937**

18(17) Antennae short and thick, length of middle segment 2 – 2.5 times its width; size small, length of body: ♂20 – 24 mm, ♀25 – 29 mm. Distribution in Yunnan (Kunming, Huize, Fumin), Chongqing ………… *C. chinensis* **Willemse, 1933**

新种记述

1　香格里拉拟裸蝗，新种 *Conophymacris xianggelilaensis* Niu *et* Zheng, sp. nov.（图 1 ~ 4）

雄性：体中型，粗壮。头短，缺头侧窝；颜面略倾斜，具粗大刻点，颜面隆起在中央单眼以上的纵沟明显，中央单眼以下不明显。复眼卵圆形，稍突出，复眼纵径为横径的 1.3 倍，为眼下沟长度的 1.5 倍。触角丝状，略超过前胸背板后缘，中段一节长为宽的 2 倍。前胸背板前缘平直，后缘弧形，中央微凹；中、侧隆线明显，沟前区长为沟后区长的 1.4 倍。前胸腹板突圆锥形，顶端尖。前翅小，鳞片状，侧置，在背部不毗连，其长为宽的 1.7 倍；后翅甚微小。后足股节上侧中隆线平滑，下膝侧片顶端圆形。后足胫节外侧具刺 8 ~ 10 个，具外端刺，内侧具刺 10 ~ 11 个。鼓膜器发达，卵圆形。肛上板宽稍大于长，两侧的中部略凹入，后缘中央三角形突出。尾须较细长，基部最宽，中部狭，端部稍宽扁，端部后下角突出，内折。下生殖板短锥形，顶钝。

体褐色。颜面、颊、前胸背板侧片下半部色较浅，黄褐色。前翅褐色，臂脉域黄褐色。后足股节上侧绿色，外侧黑色，下半近端部具一黄色纵纹，下侧暗绿色，内侧几乎全黑色，仅下缘近基部具暗红色纵纹，中部具一小黄斑。胫节紫红色。

雌性：结构和体色与雄性相同。肛上板三角形。产卵瓣粗短，外缘无细齿。下生殖板后缘具三突起，均呈三角形，中央一个较细小。

体长：♂19.5 ~ 25 mm；♀25.5 ~ 29 mm

前胸背板长：♂5.8 ~ 6 mm；♀6.5 ~ 7.2 mm

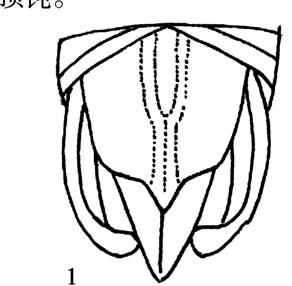
前翅长：♂4 ~ 5 mm；♀4.5 ~ 5 mm

后足股节长：♂12 ~ 13 mm；♀13.5 ~ 14 mm

正模♂，云南：香格里拉（铺上），1998-09-13，3 000 m，欧晓红采；副模 30♂20♀，同正模。

该新种近似于黑股拟裸蝗 *Conophymacris nigrofemora* Liang，1993，但雄性尾须后下角内折，肛上板长略大于宽，后足胫节内外侧刺较少；阳具基背片形状不同（图 4，5）。

词源：新种名以模式产地“香格里拉（Xianggelila）”命名。





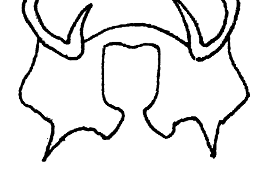


图 1 ~ 4 香格里拉拟裸蝗

Figs. 1 – 4 *Conophymacris xianggelilaensis* sp. nov.

1：雄性腹端背面 ♂, terminalia, dorsal view；2：雄性尾须 ♂, cerca；3：雌性下生殖板 ♀, subgenital plate；4：阳具基背片 Epiphallus

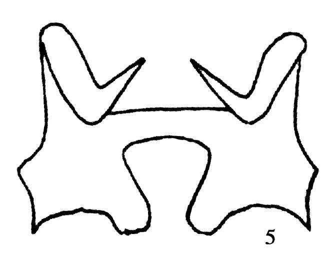


图 5　黑股拟裸蝗的阳具基背片

Fig. 5 Epiphallus of *Conophymacris nigrofemora* Liang

2 九龙拟裸蝗，新种 *Conophymacris jiulongensis* Zheng *et* Shi，sp. nov.（图 6 ~ 9）

雄性：体中型，较粗壮。头顶向前倾斜，在复眼间的距离大于颜面隆起在触角之间宽的 2 倍；缺头侧窝；侧面观，颜面略倾斜，与头顶形成钝圆角形，颜面隆起侧缘近平行，自触角基部之间向下至中央单眼之下具纵沟，具粗大刻点。复眼卵圆形，复眼的纵径为横径的 1.75 倍，为眼下沟长的 1.75 倍。触角丝状，超过前胸背板后缘，中段一节长为宽的 1.75 ~ 2 倍。前胸背板前缘平直，后缘宽弧形，中央微凹；中、侧隆线均明显，侧隆线直，不弯曲；后横沟切断中、侧隆线，沟前区的长度为沟后区长的 1.5 ~ 1.7 倍；前胸背板侧片后下角圆弧形；在背板的沟后区密具粗大刻点。前胸腹板突圆锥形；中胸腹板侧叶间中隔的宽度大于长度；后胸腹板侧叶分开。前翅鳞片状，侧置，在背部不毗连，翅顶圆形，到达第 1 腹节背板后缘，翅长为宽的1.9 倍；后翅极小，不发达。后足股节上侧中隆线平滑，下膝侧片顶圆形。后足胫节外侧具刺 10 个，具外端刺，内侧具刺 11 个。跗节爪间中垫大，到达爪之顶端。鼓膜器发达。肛上板盾形，端部三角形突出，在基部中央具宽纵沟。尾须较长，向内向上弯曲，基部较宽，中部细，端部呈宽弧形，后下角呈圆弧形。下生殖板短锥形，顶较钝。

体褐绿色。触角黄褐色。复眼深褐色。眼后带黑色。后胸前侧片黄褐色。前翅黑褐色，臀域黄褐色。后足股节上侧绿色，外侧上半部绿色，下半部黄色，在中部具二黑斑，膝部黑褐色；下侧黄绿色，在下侧内面基部 1/3 红色；内侧大部黑色，中部具一个三角形淡黄色斑，近端部具淡黄色环。后足胫节端 2/3 红色，基 1/3 黑色，近基部具一淡黄色环。跗节褐色。

雌性：体较雄性粗大。触角刚到达前胸背板后缘，中段一节长为宽的 1.75 倍。前胸背板沟前区的长度为沟后区长的 1.7 倍。前翅长为宽的 1.25 倍。肛上板三角形，中央具纵沟，中部横沟明显。尾须短锥形。产卵瓣较长，上瓣之长为宽的 4 倍，上外缘具钝齿。下生殖板后缘具三齿，中齿较大。

体色同雄性。

体长：♂24 mm；♀31 ~ 34 mm

前胸背板长：♂5.5 ~ 6 mm；♀6.5 ~ 7 mm

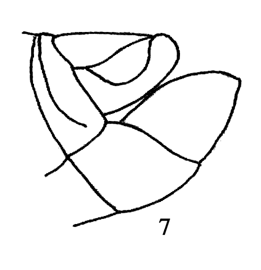
前翅长：♂4 ~ 4.5 mm；♀4 ~ 5 mm

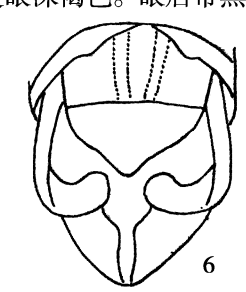
后足股节长：♂12 ~ 13 mm；♀14.5 ~ 15 mm

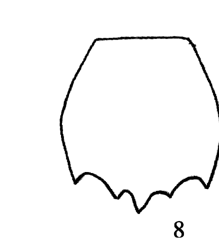
正模♂，四川：九龙（洪坝），2008-09-23，石福明采；副模 11 ♂12♀，同正模。

该新种近似于绿拟裸蝗 *Conophymacris viridis* Zheng，1980，但雄性前胸背板沟前区侧隆线直；后足胫节端 2/3 红色，基 1/3 黑色，近基部具一淡黄色环；雌性前翅长为宽的 1.25 倍；下生殖板后缘具三齿，中齿较大而区别。

词源：种名以模式标本产地“九龙（Jiulong）”为名。







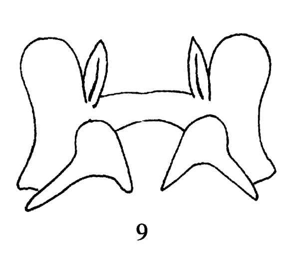


图 6 ~ 9 九龙拟裸蝗

Figs. 6 – 9 *Conophymacris jiulongensis* sp. nov.

6：雄性腹端背面 ♂，terminalia，dorsal view；7：雄性腹端侧面 ♂，terminalia，lateral view；8：雌性下生殖板 ♀，subgenital plate；9：阳具基背片 Epiphallus.

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Appendix: Brief descriptions of new taxa

Conophymacris xianggelilaensis **Niu *et* Zheng, sp. nov.** (Figs. 1 – 4)

This new species related to *Conophymacris nigrofemora* Liang, 1993, but differs from the latter in: cerci of male folded on lower margin of apex; epiproct in male wider, maximum width longer than the length; epiphallus in different shape.

Length of body: ♂19.5 – 25 mm; ♀25.5 – 29 mm.

Length of pronotum: ♂5.8 – 6 mm; ♀6.5 – 7.2 mm.

Length of elytra: ♂4 – 5 mm; ♀4.5 – 5 mm.

Length of hind femur: ♂12 – 13 mm; ♀13.5 – 14 mm.

Holotype ♂, Yunnan: Xianggelila (Pushang), 3 000 m, 99° 7′ E, 27° 8′ N, 13-Sept.-1998, collected by Ou Xiao-Hong and Wu Xiao-Qiang; paratypes 30 ♂20 ♀, same data as holotype.

Etymology: The specific name is derived from the type locality Xianggelila, Yunnan Province.

Conophymacris jiulongensis **Zheng *et* Shi, sp. nov.** (Figs. 6 – 9)

This new species is allied to *Conophymacris viridis* Zheng, 1980, but differs from the latter in: lateral keels of pronotum of male straight; apical two thirds of hind tibia red, basal one third black, near basal part with light ring; length of elytra of female 1.25 times its width; hind margin of subgenital plate of female with three teeth, middle one large.

Length of body: ♂24 mm; ♀ 31 – 34 mm.

Length of pronotum: ♂5.5 – 6 mm; ♀6.5 – 7 mm.

Length of elytra: ♂4 – 4.5 mm; ♀4 – 5 mm.

Length of hind femur: ♂12 – 13 mm; ♀14.5 – 15 mm.

Holotype ♂, Sichuan: Jiulong (Hongba), 101° 5′E, 29° N, 23-Sept.-2008, collected by Shi Fu-Ming; paratypes 11 ♂12 ♀, same data as holotype.

Etymology: The specific name is derived from the type locality Jiulong, Sichuan Province.